

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P333110-840

Luminaire Tested: **S124RDIW-S1195D1340U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333110-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDIW-S1195D1340U840-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9569.1 lumens  
Efficiency: N/A  
Efficacy: 125.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse

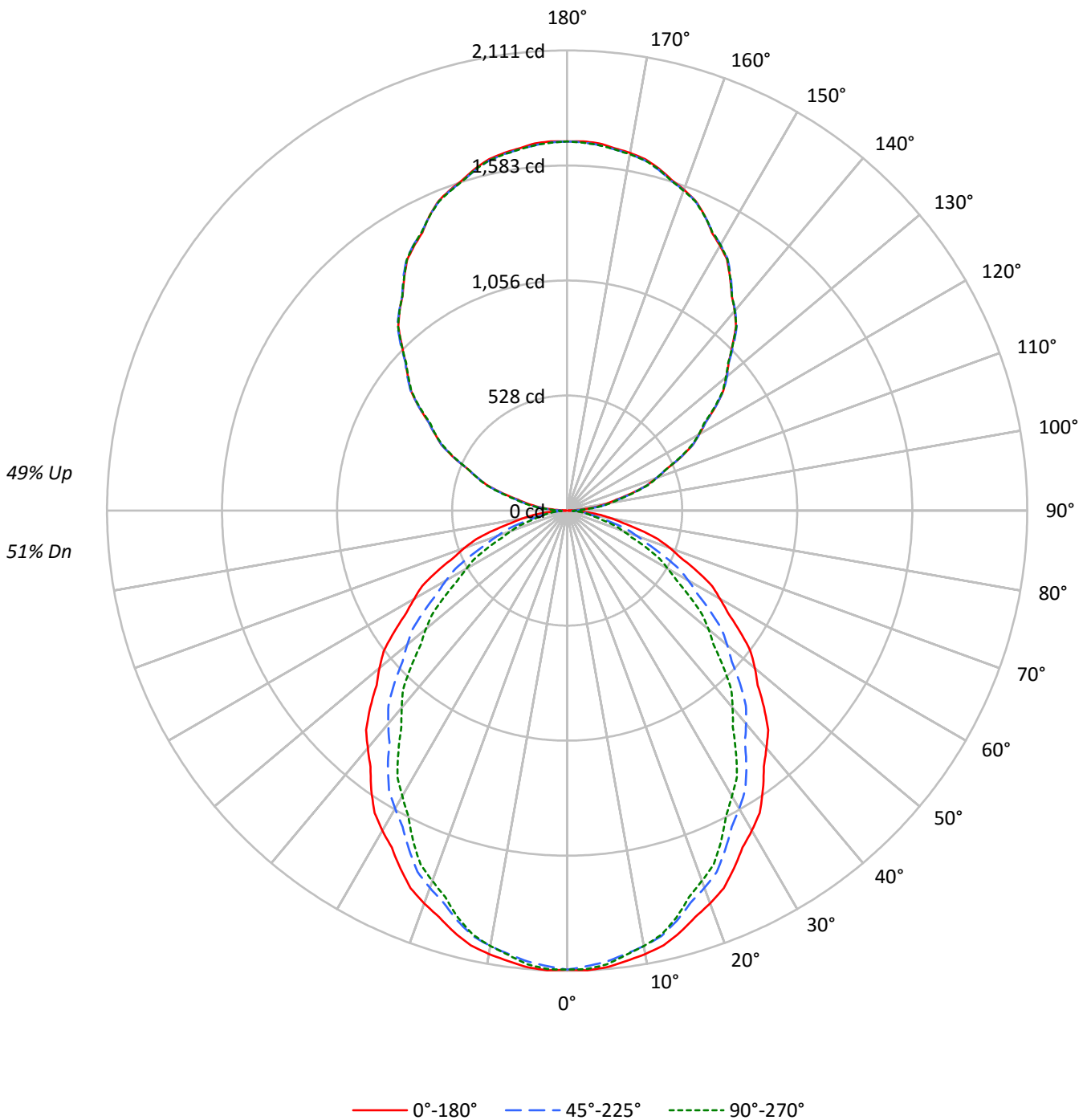
Input Watts (W): 76.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					20	
RC	80					70					50					30					10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51				51
1	98	94	90	87	91	87	84	81	74	72	69	62	60	59	51	50	49	43				43
2	90	82	76	71	83	76	71	67	65	61	58	55	52	49	45	43	41	37				37
3	82	73	65	60	75	67	61	56	58	53	49	49	45	42	40	38	35	31				31
4	75	64	57	51	69	60	53	48	51	46	42	43	39	36	36	33	31	27				27
5	69	58	50	44	64	54	46	41	46	41	36	39	35	32	33	29	27	24				24
6	64	52	44	38	59	48	41	36	42	36	32	35	31	28	30	26	24	21				21
7	59	47	39	33	54	44	37	32	38	32	28	32	28	25	27	24	21	19				19
8	55	43	35	30	51	40	33	28	34	29	25	30	25	22	25	22	19	17				17
9	51	39	31	26	47	36	30	25	32	26	22	27	23	20	23	20	17	15				15
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	21	18	16	14				14

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	17002	17002	17002
5°	17040	16832	16936
10°	16934	16629	16629
15°	16739	16280	16160
20°	16472	15821	15530
25°	16131	15284	14895
30°	15800	14716	14100
35°	15431	14128	13302
40°	14989	13460	12440
45°	14582	12795	11562
50°	14117	12031	10633
55°	13619	11234	9623
60°	13070	10362	8591
65°	12567	9270	7578
70°	11837	8068	6434
75°	10914	6691	5231
80°	9521	5100	4798
85°	8068	4631	4335



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	197.8	2.1
10°-20°	551.7	5.8
20°-30°	796.6	8.3
30°-40°	903.0	9.4
40°-50°	872.0	9.1
50°-60°	725.1	7.6
60°-70°	500.7	5.2
70°-80°	253.8	2.7
80°-90°	70.2	0.7
90°-100°	111.7	1.2
100°-110°	330.9	3.5
110°-120°	561.6	5.9
120°-130°	740.5	7.7
130°-140°	831.6	8.7
140°-150°	817.2	8.5
150°-160°	687.3	7.2
160°-170°	457.3	4.8
170°-180°	160.1	1.7
0°-30°	1546.1	16.2
0°-40°	2449.1	25.6
0°-60°	4046.2	42.3
0°-90°	4870.8	50.9
90°-120°	1004.2	10.5
90°-150°	3393.5	35.5
90°-180°	4698.0	49.1
0°-180°	9569.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2106	2106	2106	2106	2106	
5°	2103	2096	2077	2092	2090	199
15°	2003	1987	1948	1944	1934	564
25°	1811	1780	1716	1689	1672	834
35°	1566	1513	1434	1380	1350	978
45°	1277	1215	1121	1044	1013	984
55°	968	901	798	717	684	865
65°	658	587	485	419	397	649
75°	350	289	214	179	168	369
85°	87	56	50	47	47	98
90°	4	18	29	36	39	9
95°	79	90	100	103	104	87
105°	305	307	312	316	320	324
115°	571	571	568	567	566	563
125°	832	832	830	828	825	741
135°	1073	1080	1080	1078	1074	830
145°	1303	1308	1310	1308	1304	815
155°	1493	1493	1492	1496	1492	687
165°	1625	1621	1619	1626	1621	458
175°	1691	1685	1683	1691	1683	160
180°	1693	1693	1693	1693	1693	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2111.1	2110.0	2108.9	2107.7	2106.6	2104.5	2101.3	2098.1	2095.0	2091.8	2095.0
5°	2102.7	2101.3	2099.9	2098.5	2097.1	2094.2	2089.9	2085.6	2081.3	2077.0	2080.5
7.5°	2083.8	2082.2	2080.7	2079.2	2077.7	2074.2	2068.6	2063.1	2057.4	2051.8	2054.2
10°	2065.7	2063.9	2062.1	2060.3	2058.5	2054.4	2048.0	2041.5	2035.1	2028.6	2030.0
12.5°	2042.5	2040.4	2038.3	2036.2	2034.2	2029.3	2021.7	2014.2	2006.5	1998.9	1999.8
15°	2002.8	1999.5	1996.4	1993.2	1989.9	1983.8	1974.9	1965.9	1956.9	1947.9	1947.2
17.5°	1954.8	1950.0	1945.4	1940.8	1936.1	1928.4	1917.6	1906.9	1896.1	1885.4	1883.4
20°	1917.3	1912.7	1908.0	1903.4	1898.7	1890.3	1878.1	1865.9	1853.7	1841.6	1838.7
22.5°	1876.0	1870.9	1865.6	1860.4	1855.1	1846.0	1832.9	1819.9	1806.9	1793.8	1789.5
25°	1810.9	1804.4	1798.0	1791.6	1785.1	1774.5	1759.9	1745.1	1730.5	1715.8	1709.7
27.5°	1742.5	1734.4	1726.4	1718.3	1710.1	1698.3	1682.5	1666.9	1651.1	1635.5	1627.9
30°	1694.9	1685.9	1676.9	1667.9	1659.0	1646.1	1629.2	1612.4	1595.6	1578.7	1569.7
32.5°	1644.5	1634.4	1624.3	1614.2	1604.1	1590.3	1572.9	1555.5	1538.0	1520.7	1510.3
35°	1565.8	1554.3	1542.9	1531.4	1519.9	1505.2	1487.3	1469.5	1451.5	1433.6	1421.4
37.5°	1481.7	1469.8	1457.9	1446.1	1434.3	1418.5	1398.7	1378.8	1359.0	1339.1	1325.4
40°	1422.3	1410.5	1398.7	1386.8	1374.9	1358.9	1338.5	1318.0	1297.6	1277.2	1262.1
42.5°	1365.5	1353.1	1340.7	1328.3	1316.0	1299.1	1277.8	1256.5	1235.3	1214.0	1198.6
45°	1277.2	1263.8	1250.6	1237.4	1224.2	1206.7	1185.3	1163.8	1142.3	1120.7	1103.2
47.5°	1185.9	1172.2	1158.5	1144.8	1131.1	1113.1	1090.8	1068.3	1046.0	1023.7	1005.4
50°	1124.0	1109.9	1096.0	1082.1	1068.0	1049.6	1026.6	1003.7	980.8	957.9	940.0
52.5°	1060.8	1047.0	1033.4	1019.7	1006.0	987.3	963.9	940.4	916.9	893.3	875.1
55°	967.6	953.2	938.9	924.5	910.2	891.4	868.1	844.9	821.5	798.2	779.6
57.5°	875.3	860.4	845.5	830.6	815.7	796.8	773.9	750.8	727.9	705.0	686.1
60°	809.5	795.2	780.8	766.5	752.1	733.6	710.6	687.7	664.7	641.8	623.2
62.5°	750.1	735.3	720.3	705.5	690.5	671.4	647.8	624.3	600.8	577.3	560.1
65°	657.9	642.5	627.1	611.7	596.3	577.1	554.2	531.3	508.4	485.3	470.0
67.5°	562.1	547.3	532.6	517.9	503.1	485.0	463.7	442.5	421.2	399.9	386.7
70°	501.5	486.5	471.4	456.4	441.3	423.5	403.1	382.7	362.3	341.8	330.0
72.5°	437.0	423.4	409.8	396.2	382.5	366.1	346.8	327.5	308.2	288.9	278.8
75°	349.9	336.7	323.4	310.1	296.9	281.9	265.0	248.1	231.4	214.5	206.2
77.5°	261.6	250.3	239.0	227.8	216.5	204.1	190.5	176.9	163.3	149.7	144.8
80°	204.8	194.4	184.0	173.6	163.2	152.7	141.9	131.2	120.4	109.7	108.6
82.5°	155.8	146.2	136.7	127.1	117.6	109.8	103.6	97.5	91.3	85.1	84.3
85°	87.1	79.9	72.7	65.5	58.4	54.3	53.2	52.1	51.1	50.0	49.3
87.5°	30.5	28.8	27.2	25.4	23.8	23.1	23.3	23.4	23.6	23.8	23.9
90°	3.9	7.2	10.3	13.5	16.8	19.5	21.8	24.1	26.5	28.8	30.6
92.5°	28.1	31.7	35.3	39.0	42.7	45.3	47.0	48.6	50.2	51.9	52.9
95°	78.6	81.2	83.8	86.4	89.1	91.4	93.4	95.4	97.5	99.6	100.4
97.5°	137.2	139.4	141.5	143.5	145.6	147.8	150.3	152.7	155.0	157.4	158.4
100°	183.4	184.5	185.7	186.8	188.0	189.9	192.5	195.1	197.7	200.4	201.0
102.5°	231.6	232.1	232.5	233.0	233.4	234.8	237.2	239.6	242.0	244.4	245.2
105°	305.2	305.5	305.8	306.0	306.3	307.0	308.2	309.4	310.5	311.7	312.6
107.5°	382.4	382.7	383.1	383.4	383.8	384.1	384.3	384.5	384.7	384.8	385.6
110°	434.8	435.4	436.0	436.6	437.2	437.3	437.0	436.7	436.5	436.2	435.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	489.3	489.4	489.5	489.7	489.8	489.6	489.1	488.5	488.0	487.5	487.4
115°	571.0	571.0	571.0	571.0	571.0	570.8	570.2	569.6	569.0	568.4	568.2
117.5°	648.0	648.2	648.5	648.7	648.9	648.8	648.4	648.0	647.6	647.2	646.2
120°	699.3	700.5	701.7	702.9	704.0	704.2	703.3	702.5	701.6	700.6	699.2
122.5°	752.8	753.3	753.8	754.2	754.7	754.7	754.3	753.9	753.5	753.1	752.0
125°	831.6	831.6	831.6	831.6	831.6	831.5	831.2	830.9	830.6	830.3	829.7
127.5°	903.1	904.0	904.9	905.7	906.7	906.9	906.4	905.9	905.4	904.9	904.4
130°	953.4	954.3	955.2	956.0	956.9	957.4	957.4	957.4	957.4	957.4	956.7
132.5°	1004.8	1005.4	1006.0	1006.7	1007.3	1007.5	1007.3	1007.0	1006.8	1006.6	1006.0
135°	1072.6	1074.4	1076.1	1077.8	1079.6	1080.5	1080.5	1080.5	1080.5	1080.5	1079.9
137.5°	1146.5	1147.3	1148.1	1148.9	1149.7	1150.4	1150.8	1151.3	1151.8	1152.3	1151.4
140°	1195.8	1196.3	1196.9	1197.5	1198.1	1198.3	1198.3	1198.3	1198.3	1198.3	1198.1
142.5°	1240.8	1241.3	1241.9	1242.5	1243.1	1243.2	1243.0	1242.8	1242.6	1242.3	1242.3
145°	1303.1	1304.3	1305.5	1306.7	1307.8	1308.5	1308.8	1309.1	1309.4	1309.7	1309.4
147.5°	1364.9	1366.3	1367.8	1369.2	1370.5	1371.1	1370.9	1370.7	1370.4	1370.2	1370.0
150°	1402.7	1403.8	1405.0	1406.1	1407.3	1407.9	1407.9	1407.9	1407.9	1407.9	1407.9
152.5°	1438.2	1439.0	1439.7	1440.4	1441.1	1441.6	1441.8	1442.0	1442.3	1442.5	1443.2
155°	1493.0	1493.0	1493.0	1493.0	1493.0	1492.9	1492.6	1492.3	1492.0	1491.8	1492.9
157.5°	1539.1	1538.6	1538.1	1537.5	1537.0	1536.7	1536.7	1536.6	1536.6	1536.5	1537.4
160°	1566.4	1566.1	1565.8	1565.5	1565.2	1564.9	1564.6	1564.4	1564.1	1563.8	1564.6
162.5°	1591.5	1590.7	1590.0	1589.2	1588.5	1588.0	1587.7	1587.4	1587.1	1586.8	1588.4
165°	1625.3	1624.5	1623.6	1622.7	1621.8	1621.1	1620.5	1619.9	1619.3	1618.7	1620.5
167.5°	1651.2	1650.0	1648.8	1647.6	1646.4	1645.8	1645.9	1645.9	1646.0	1646.0	1647.8
170°	1665.9	1664.5	1663.0	1661.5	1660.1	1659.5	1659.8	1660.1	1660.4	1660.6	1662.4
172.5°	1676.4	1675.2	1674.0	1672.7	1671.5	1670.9	1671.0	1671.0	1671.1	1671.1	1673.1
175°	1690.8	1689.3	1687.9	1686.5	1685.0	1684.1	1683.8	1683.5	1683.2	1682.9	1685.0
177.5°	1695.5	1694.4	1693.1	1692.0	1690.8	1690.3	1690.3	1690.3	1690.3	1690.3	1691.9
180°	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2098.1	2101.3	2104.5	2105.9	2105.6	2105.3	2105.0	2104.8
5°	2084.2	2087.7	2091.3	2092.7	2092.0	2091.3	2090.6	2089.9
7.5°	2056.4	2058.7	2061.0	2061.5	2060.4	2059.3	2058.1	2057.0
10°	2031.4	2032.9	2034.4	2034.4	2032.9	2031.4	2030.0	2028.6
12.5°	2000.6	2001.6	2002.4	2001.8	1999.8	1997.8	1995.8	1993.8
15°	1946.5	1945.8	1945.1	1943.5	1941.0	1938.4	1936.0	1933.5
17.5°	1881.4	1879.4	1877.3	1874.5	1870.7	1866.8	1863.1	1859.3
20°	1835.8	1832.9	1830.1	1826.3	1821.7	1817.1	1812.3	1807.7
22.5°	1785.2	1780.9	1776.7	1772.6	1768.8	1764.9	1761.2	1757.4
25°	1703.5	1697.5	1691.4	1686.6	1682.9	1679.4	1675.8	1672.2
27.5°	1620.4	1612.9	1605.4	1599.0	1593.9	1588.7	1583.6	1578.4
30°	1560.7	1551.9	1542.9	1535.5	1529.7	1524.1	1518.3	1512.6
32.5°	1499.9	1489.4	1479.0	1471.2	1465.7	1460.3	1454.8	1449.4
35°	1409.2	1397.0	1384.8	1375.5	1369.1	1362.6	1356.1	1349.7
37.5°	1311.8	1298.2	1284.6	1274.6	1268.1	1261.6	1255.3	1248.8
40°	1247.1	1232.0	1217.0	1206.2	1199.7	1193.3	1186.9	1180.4
42.5°	1183.3	1167.9	1152.6	1141.6	1134.8	1128.1	1121.4	1114.6
45°	1085.6	1068.0	1050.5	1038.4	1032.1	1025.6	1019.2	1012.7
47.5°	987.2	969.1	950.9	938.2	931.1	924.0	916.9	909.8
50°	922.0	904.1	886.2	873.8	867.1	860.2	853.4	846.6
52.5°	857.0	838.8	820.5	807.9	800.8	793.8	786.6	779.5
55°	760.9	742.4	723.7	710.9	704.2	697.3	690.5	683.7
57.5°	667.2	648.2	629.3	617.3	612.2	606.9	601.8	596.6
60°	604.5	585.9	567.2	555.1	549.4	543.6	537.9	532.1
62.5°	542.9	525.7	508.5	497.6	493.0	488.5	483.8	479.3
65°	454.5	439.2	423.7	413.8	409.6	405.3	401.0	396.7
67.5°	373.4	360.1	346.9	337.9	333.2	328.4	323.7	318.9
70°	318.2	306.4	294.6	286.9	283.3	279.7	276.1	272.6
72.5°	268.7	258.6	248.5	241.9	238.5	235.3	232.0	228.6
75°	198.0	189.8	181.5	176.3	174.2	172.0	169.9	167.7
77.5°	140.1	135.2	130.5	127.7	127.0	126.4	125.8	125.1
80°	107.6	106.4	105.3	104.6	104.3	103.9	103.6	103.2
82.5°	83.6	82.8	82.0	81.4	81.1	80.7	80.4	80.0
85°	48.6	47.9	47.2	46.8	46.8	46.8	46.8	46.8
87.5°	23.9	24.0	24.0	24.3	24.7	25.1	25.5	26.0
90°	32.3	34.0	35.7	37.0	37.6	38.2	38.7	39.3
92.5°	53.9	55.0	56.0	56.8	57.1	57.5	57.8	58.2
95°	101.3	102.2	103.0	103.5	103.5	103.5	103.5	103.5
97.5°	159.6	160.6	161.6	162.2	162.2	162.2	162.2	162.2
100°	201.6	202.2	202.7	203.0	203.0	203.0	203.0	203.0
102.5°	246.0	246.8	247.6	248.1	248.4	248.6	248.8	249.1
105°	313.5	314.4	315.2	316.1	316.9	317.8	318.7	319.5
107.5°	386.4	387.2	388.1	388.4	388.4	388.3	388.3	388.2
110°	434.9	434.3	433.8	433.9	434.8	435.7	436.6	437.5





TEST NUMBER: P333110-840

CATALOG NUMBER: S124RDIW-S1195D1340U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	487.3	487.2	487.0	487.1	487.2	487.4	487.6	487.8
115°	567.8	567.5	567.2	566.9	566.6	566.3	566.0	565.8
117.5°	645.3	644.3	643.3	642.5	641.9	641.4	640.8	640.2
120°	697.8	696.3	694.9	694.4	695.0	695.6	696.2	696.7
122.5°	751.0	750.1	749.1	748.1	747.0	746.0	745.0	743.9
125°	829.2	828.6	828.0	827.4	826.9	826.3	825.7	825.1
127.5°	903.8	903.2	902.6	902.1	901.7	901.2	900.7	900.3
130°	956.2	955.6	955.0	954.2	953.0	951.8	950.7	949.5
132.5°	1005.4	1004.9	1004.3	1003.8	1003.3	1002.8	1002.4	1001.9
135°	1079.3	1078.7	1078.1	1077.4	1076.5	1075.7	1074.8	1073.9
137.5°	1150.7	1150.0	1149.2	1148.9	1149.1	1149.3	1149.4	1149.6
140°	1197.8	1197.5	1197.2	1196.9	1196.6	1196.3	1196.0	1195.8
142.5°	1242.2	1242.2	1242.1	1242.0	1242.0	1241.9	1241.9	1241.8
145°	1309.1	1308.8	1308.5	1308.0	1307.1	1306.2	1305.4	1304.4
147.5°	1369.7	1369.5	1369.3	1369.0	1368.7	1368.4	1368.2	1367.9
150°	1407.9	1407.9	1407.9	1407.8	1407.4	1407.1	1406.8	1406.6
152.5°	1443.9	1444.6	1445.3	1445.2	1444.5	1443.7	1443.0	1442.2
155°	1494.1	1495.2	1496.4	1496.4	1495.2	1494.1	1492.9	1491.8
157.5°	1538.2	1539.1	1540.0	1539.9	1538.9	1537.9	1537.0	1536.0
160°	1565.5	1566.4	1567.2	1566.9	1565.5	1564.1	1562.6	1561.2
162.5°	1589.9	1591.5	1593.1	1593.2	1591.6	1590.2	1588.8	1587.3
165°	1622.2	1624.0	1625.8	1626.1	1624.9	1623.7	1622.6	1621.3
167.5°	1649.5	1651.2	1652.9	1652.9	1651.1	1649.3	1647.6	1645.8
170°	1664.2	1665.9	1667.7	1667.5	1665.5	1663.4	1661.4	1659.4
172.5°	1675.1	1677.1	1679.1	1679.0	1677.0	1675.0	1672.9	1670.9
175°	1687.0	1689.0	1691.1	1691.1	1689.0	1687.0	1685.0	1682.9
177.5°	1693.5	1695.2	1696.8	1696.7	1694.9	1692.9	1691.1	1689.2
180°	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4	1693.4

(END OF REPORT)